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Ted Dragovich
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Jim Moore

RCRA Facility Assessment

Clayton Chemical Company

1631210004

ILD006918327

#1 Mobile Avenue

Sauget, Illinois

Prepared by:

Michael D. Grant and Steve Noblitt

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Description of Solid Waste Management Units

The following is an individual discussion of each SWMU identified during the preliminary review and visual site inspection. Figure 5-1 is a list of those units. Figure 5-2 is a SWMU locator map. The SWMU's located on the overlay are areas where past activities at the Clayton facility classified these areas as SWMU's. The site plan itself represents the facility in its current condition.

List of Solid Waste Management Units
Clayton Chemical Company, Sauget, Illinois

<u>SWMU #</u>	<u>Unit Name</u>
1	Waste Drum Storage Dock
2	Drum Staging Building
3	Storage Tanks T205, T206, T207, T210, T211, former tanks T201, T202, T203, T204, T208, and area within contain- ment.
4	Former Still Bottoms Disposal Area
5	Location of former Tanks 4, 5, 6, 7, and 8 and existing tanks 2 and 3.
6	SIGMA Storage Tanks
7	Stills #3 and #4
8	Tanks 11-14, 27, 28, 18, R-1, 43 and area of containment.
9	Processed Solvent Tanks 16, 17, 24, 33, 34, 37-39, 41 and 42 and associated containment.
10	Solvent Feed Tanks 45-47 and solvent distillation unit.
11	Tanks 7, 2, 25, 26, 36, 40, 44 and 9
12	Still #5 and hot oil heater
13	Location of former tanks T-39, T-30, T-29, T-31, and T-32
14	Area of Tanks 51 and 29
15	Prop Plant Area (Tanks G-2-G-11)
16	A-1 Waste Oil Storage Tanks
17	Former location of Bliss underground storage tanks
18	Former location of Bliss vertical tanks
19	Former location of Trade Waste Incineration

Figure 5-1

List of Solid Waste Management Units
Clayton Chemical Company, Sauget, Illinois

<u>SWMU #</u>	<u>Unit Name</u>
20	Tank Bottoms Disposal Area
21 & 22	Former Drum Storage Areas
23	Tank #20, related piping and railroad spur
24	Underground pipeline break
25	Run-off collection area
26	Crushed empty drum roll-off container
27	Plant Process Sewers

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Unit No.: SWMU #1 (Photos - Roll #1210 - #3, #4 & #13)

Unit Name: Waste Drum Storage Dock

Unit Description: The unit is located in the southwest portion of the facility. The dock is elevated to be equivalent in height to a flat bed semi-trailer. The dock is approximately 40'x 83'. The dock is a six inch concrete slab. A 4 inch high containment berm encompasses the dock. The containment is a 4" angle iron, which was sealed with an epoxy material around the seam. This containment was not installed on the dock until 1985. The unit stores 55 gallon drums which have been stored 2 high and as many as 6 wide. Currently, there is a RCRA aisle space violation pending. Also, a hydraulic drum crusher is located in the southwest corner of the dock.

Starting Date: An exact date was not determined, however, the dock was first observed by the Agency during a May 21, 1982 pre-op inspection.

Date of Closure: The unit is still operational and a Part B permit is being sought for this unit. There is no anticipated closure date.

Wastes Managed: The waste stored on this dock D001 - ignitables, F002, F003, F005, spent solvents, as well as some non-hazardous waste oils.

Release Controls: As mentioned previously, a berm surrounds the entire dock, however, this was not constructed until 1985. During the VSI, it was raining, accumulated rainwater was observed and photographed seeping between the berm and the dock (see photos - Roll #1210 - #13).

History of Releases: Stains and liquid have been observed on the dock in the past, however, no samples were taken to identify the material. Drums have been observed in questionable condition with spillage on the outside of the containers (tops and sides). Also, bulging drums have been observed. During a May 25, 1989 inspection, a violation Section 725.271 was alleged for a leaking drum which was observed. See Figure 5-3.

Conclusions: The potential for soil contamination is suspected since secondary containment was not provided until 1985. Also releases to the air are likely, due to the volatile nature of some of the wastes (solvents) handled.

DATE: May 25, 1989
TIME: 11:15 a.m.
I.D. 1631210004 FOS
St. Clair County
Sauget/Clayton Chemical

PHOTOGRAPH TAKEN TOWARD THE:
North

ROLL# 1079 PHOTO# 1

PHOTOGRAPH BY:
Wendy Schaeffer



TIME:
I.D.
County

PHOTOGRAPH TAKEN TOWARD THE:

ROLL# PHOTO#

PHOTOGRAPH BY:

WGS:jlr

Unit No.: SWMU #2 (Photos - Roll #1210 - #5, #6 & #7)

Unit Name: Drum Staging Building

Unit Description: This unit is located adjacent to the drum storage dock on the southwestern portion of the facility. This unit was constructed in 1988. The unit is an enclosed metal building and houses a 1050 gallon open top tank used for blending the drummed wastes, a shaker used to separate out the solids, and drum staging. Upon observation, the building appears to have adequate secondary containment. Design specifics are currently not available for the building. The blend tank is currently the issue of a pre-enforcement conference scheduled for January 30, 1990. This tank has yet to be included in Clayton's Part B application.

Date of Start-Up: 1988

• Date of Closure: The unit is currently operational with no anticipated date of closure.

Wastes Managed: As with the drum storage dock wastes managed are D001 ignitables, F002, F003, and F005 spent solvents. The drums from the dock are staged in the drum staging building pumped to either the blending tank or to the distillation areas.

Release Controls: No specifications exist as to the type and adequacy of secondary containment. The building is enclosed with concrete floors.

History of Releases: On May 25, 1989, the Agency investigated a release at the facility which occurred on May 22, 1989. The release occurred as a result of the blending of incompatible wastes in the blend tank. As a result, a vapor cloud was released. The reaction created a large amount of heat which activated the sprinkler system and lasted for approximately 20 minutes. The release was estimated at 880 pounds. Per interviews conducted at Trade Waste Incineration (adjacent to Clayton on the north) the visible emission did drift east to west over their property.

Conclusions: Since the unit has been recently constructed and is enclosed, the possibility for soil contamination is not suspected, however the unit was constructed within the bermed area for SWMU #3 (See SWMU #3). An air release has occurred and was well documented.

Unit No.: SWMU #3 (Photos - Roll #1209 - #5 thru #12)

Unit Name: Storage Tanks, T205, T206, T207, T209, T210, and T211, and area within containment

Unit Description: The unit is located on the southwestern portion of the property and is adjacent to the drum storage dock. The drum staging building is located in the SW corner of the units containment area. Currently, Tanks T205, T206, T207, T209, T210 and T211 are located there. In the past Tanks T201, T202, T203, T204 and T208, as well as two unidentified tanks were located in this area. In Clayton's 1/90 Part B revisions these tanks are 10,000 gallon tanks used for storing non-hazardous waste oil. However, the November 1, 1988 DAPC permit application (#77110028) refers to Tanks T209, T210, and T211 as being used for waste solvent. The unit which was constructed in 1981 and 1982 has a concrete dike on the north and west edges and an earthen berm on the south and east edges.

Date of Start-up: A pre-operational inspection was conducted on May 20, 1982 by the Agency.

Release Controls: Although berms (both concrete and earthen) were provided, the base is gravel. During the VSI, no earthen berm was observed on the southern side (Roll #1209 - #11 & #12).

History of Releases: There is no documented history of releases. During the VSI, spillage was observed around the pump station (Roll #1209 - #7) and also around the tank valve (Roll #1209 - #8).

Conclusions: The potential for soil/groundwater impact in this area is likely, since there were 12 tanks located in this area and six are still remaining and the floor of the tank farm is only gravel. Also these tanks are permitted by DAPC, because they are defined as emission sources.

Unit No.: SWMU #4

Unit Name: Former Still Bottoms Pit/Disposal Area

Unit Description: Three pits were dug in the mid 1970's to dispose of solvent still bottoms from the operation. Pit #1 and #3 are not located on Clayton's property. Pit #2 was estimated as being approximately 30' x 80' and four feet in depth. It was located in the area of the drum storage dock. Estimates are the pit contained 150,000 gallons and was used until full. This information was contained in Clayton's Part B submitted as part of their solid waste management unit certification. No information on this activity is available in the Agency's files. Pit #1 was estimated at 30' x 80' and one foot in depth and was used until full (approximately 35,000 gallons). Pit #3 the largest is estimated at 100' x 300' and 4' in depth with a capacity of 860,000 gallons. These pits were reportedly filled with cinders and fly ash. Off-grade stone from the quarry was also used in Pit #3. Cover material, seeding and fertilizer was then used to complete the fill operation.

Date of Start-up: 1973-1974

Date of Closure: Final seeding of these areas was supposedly completed in 1979-1980.

Wastes Managed: All references of this activity only mention wet still bottoms from solvent recycling. No distinction is made as to what types of solvents were recycled.

Release Controls: All pits were filled. Fly ash and cinders were used in an attempt to stabilize the wastes.

History of Release: There is no known Agency documentation of this activity. This information was submitted by Clayton in the SWMU document.

Conclusions: Solvent still bottoms have been disposed of in three areas only, one of which is on Clayton's property. There is a very release potential to the groundwater in these areas. Since the pits have been covered for at least ten years, groundwater contamination is probable.

Unit No.: SWMU #5 (Photos - Roll #1206 - #13, Roll #1208 - #1 & #2)

Unit Name: Locations of Former Tanks 4, 5, 6, 7 and 8 and currently tanks 2 and 3.

Unit Description: These tanks were located south of the existing fuel tanks #2 and #3. These tanks contained "oil" as stated in a December 29, 1982 correspondence from the company to DAPC. No secondary containment was provided for these tanks. Tanks 2 and 3 remain and are permitted for #2 fuel oil. Tanks 4 and 5 were moved to the boiler on the north end of the property by the gate. A letter to DLPC Permits dated 7/30/87 states that Tanks 6 and 8 were removed from service as product storage tanks. Tank #7 was relocated and is now being used as a hazardous waste storage tank specifically chlorinated still bottoms. Because of their location to the RR siding on the property, waste oil was accepted by rail and unloaded into the tanks.

Date of Start-up: No records were found concerning actual startup, however, these tanks were shown on aerial photographs taken in 1962.

Date of Closure: Mid 1980.

Wastes Managed: Documentation available states these tanks were used to contain waste oil.

Release Controls: No secondary containment was provided for these tanks while located on this portion of the property.

History of Release: No documented evidence of a release in this area.

Conclusions: Since these tanks existed in this area for at least 20 years, there is a strong likelihood that soil and possible groundwater contamination exists.

Unit No.: SWMU #6 (Photos - Roll #1208 - #3 thru #5)

Unit Name: Storage Tanks (Sigma Tanks) S-1 thru S-8 - Secondary Containment

Unit Description: The unit is located in the center portion of the property and directly NNE of SWMU #1. The unit consists of eight (8) 10,000 gallon tanks (S-1 thru S-8) located within concrete secondary containment. The tanks are dedicated solely to Sigma Chemical Co. Four of the tanks (S-1 thru S-4) are designated for the storage of waste acetone and Ethyl alcohol prior to recycling by distillation. The other four tanks (S-5 thru S-8) are utilized for storage of the recycled product.

Each tank is equipped with a liquid level sensor which activates audio/visual alarm as the tank reaches 95% capacity. At a maximum input rate of 100 gpm, the 5% remaining capacity in a 10,000 gallon tank allows 5 minutes to shut down the liquid transfer. Alarms are located at the control room.

The four waste storage tanks were permitted for operation on October 22, 1987 by the DLPC. The facility also maintains the DAPC construction and operating permit #86090020) which was issued 10/24/86 and will expire 9/10/91. This permit pertains to tanks S-1 thru S-8. Prior to construction of this unit, Sigma tanks were formerly located in this area. This operation began in 1973 and the tanks did not have secondary containment. These tanks were used until 1985-1986 when they were pulled and replaced with the current tanks. During that time there were 10 tanks used.

Wastes Managed: Waste acetone (F003) and ethyl alcohol.

Release Controls: The tanks are equipped with audio/visual alarms. The tanks are also located within concrete secondary containment. The containment area is concrete floored and surrounded by a concrete dike. Sealant has been applied to this area to prevent a release through hairline cracks in the concrete.

History of Releases: There is no documented history of releases from this unit.

Conclusions: The potential for soil/groundwater impact in this area is suspected since the previous tanks used did not have secondary containment. The tanks are permitted by DAPC as they are defined as emission sources.

Unit No.: SWMU #7 (Photos - Roll #1208 - #6 & #7)

Unit Name: Distillation units #3 and #4

Unit Description: Installation system #3 is designated for the Sigma recovery operation. This unit, which reclaims acetone, consists of a bubble cap column and a condensor (see Figure 5-4). This unit processes product at a rate of approximately 10 gallons per hour. Still #4 is referred to as the "Frog System". This is a batch distillation operation and uses a distillation column and a condensor. The average process rate for this unit is 10 gallons per minute (see Figure 5-5).

Date of Start-up: An actual start-up date was not available, however, information taken from the May 7, 1980 DAPC permit application (Permit #80050042) states that the distillation columns have been owned and operated by Clayton Chemical since before 1965.

Date of Closure: No anticipated date of closure.

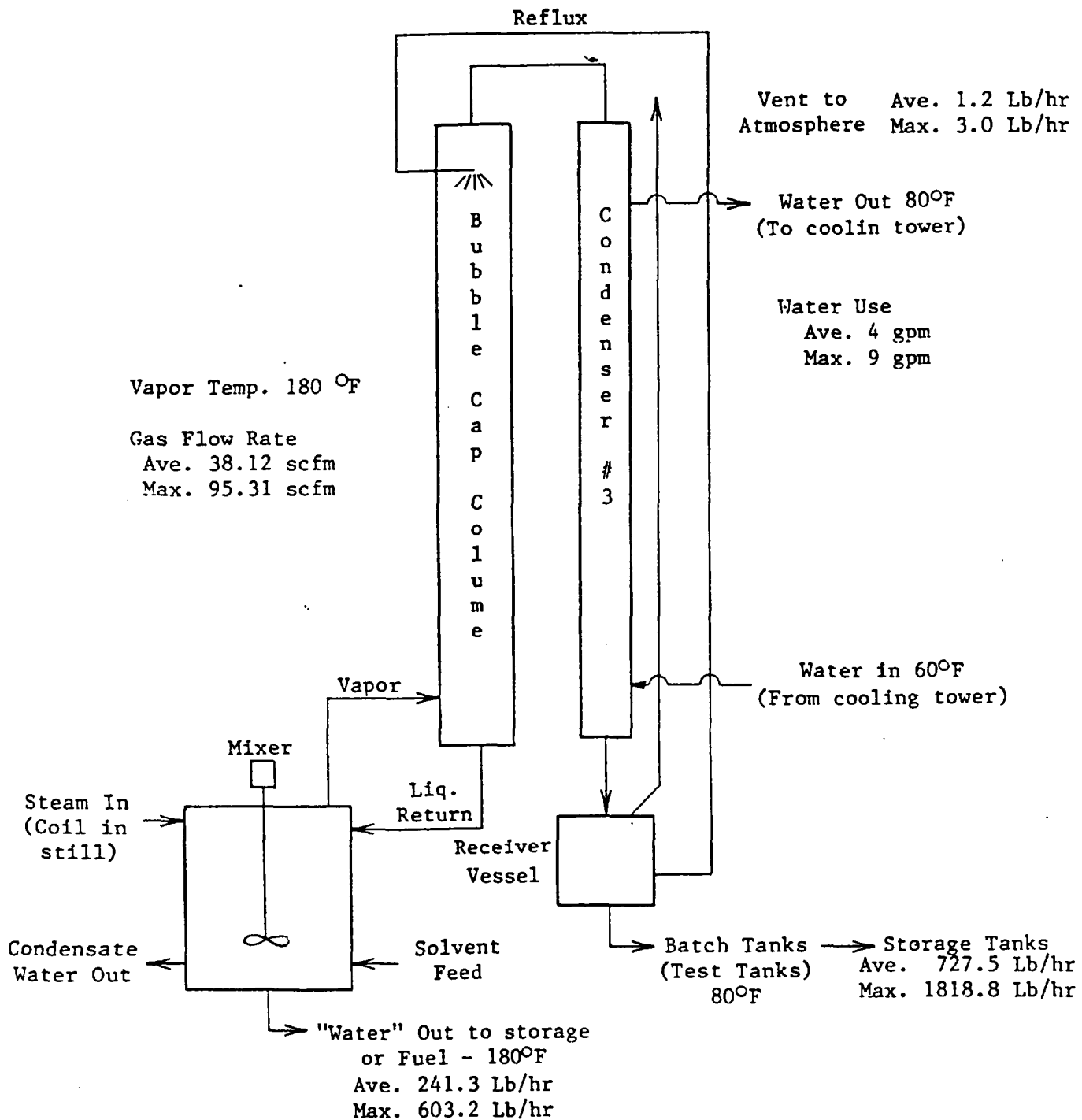
Wastes Managed: Still #3 is used to recycle spent acetone (F003) and Still #4 is used for flammable solvent blends D001, F003, F005, and chlorinated solvents F002.

Release Controls: These stills are enclosed units connected to the tanks via piping.

History of Releases: The only documented release information are the calculations of emissions provided in the DAPC permit application.

Conclusions: These stills are considered sources of air emissions. Also secondary containment was not provided until the 1980's. As a result, the stills were operated approximately 20 years with no secondary containment and, therefore, soil contamination is likely.

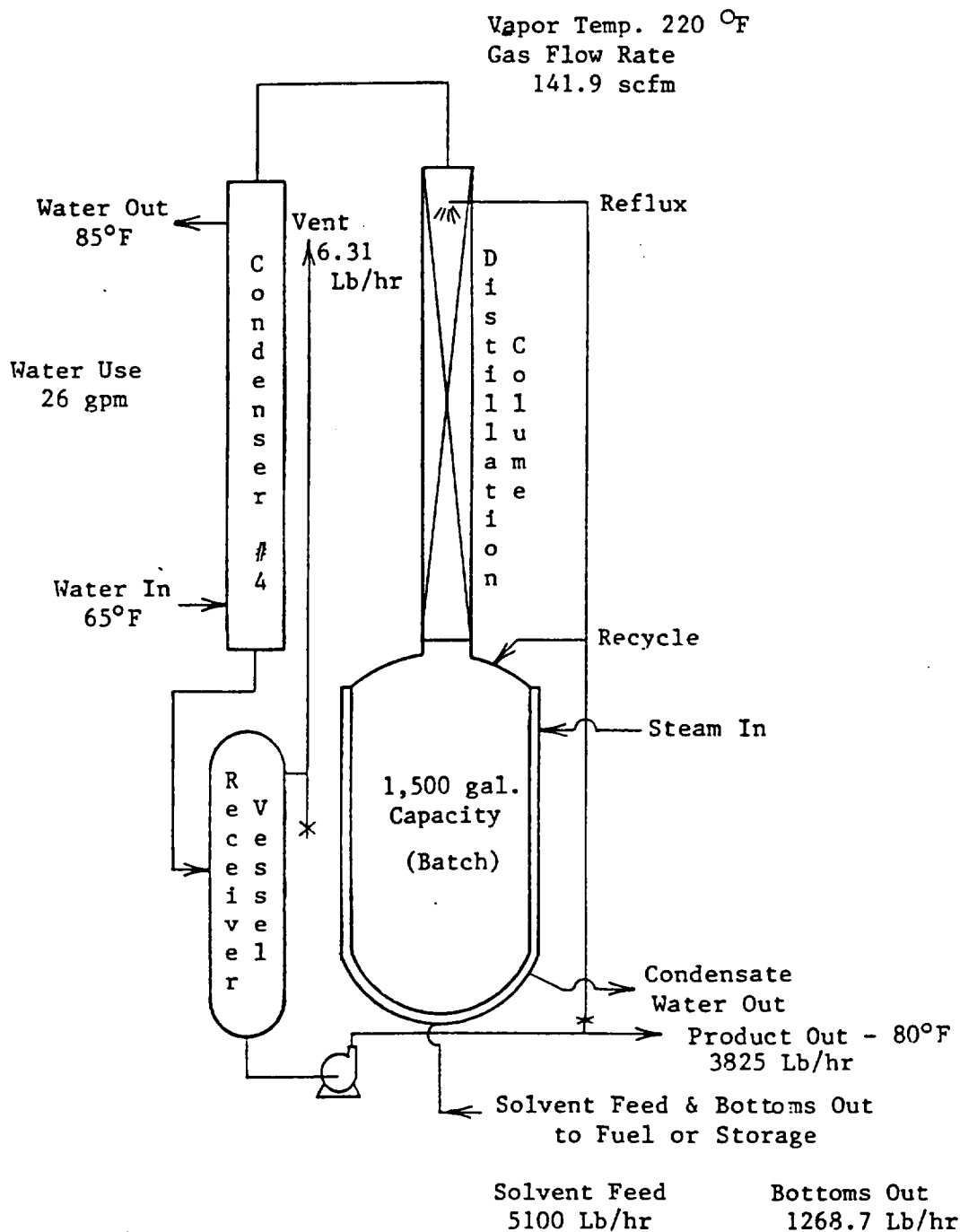
#3 Distillation System (Sigma)



Condenser - 356 sq.ft. SS tubes
Product average rate 110 gal.hr. (Acetone)
Operating pressure @ 3 psig

#4 "Frog" Distillation System

(Batch Processing)



SS tube condenser 322 sq.ft.

Average process rate 10 gal per min. (Flammable Solvent Blend)

Product to any clean solvent storage or other process system or transport tanker.

Bottoms to fuel or storage tank.

Operating pressure 0.5 psig.

Unit No.: SWMU #8

Unit Name: Tank Farm containing Tanks 11-14, 27, 28, 18, R-1 and 43, solvent recovery still #2, shaker screen, and drum accumulation area.

Unit Description: Located at the southwest corner of the distilling operation in the center of the facility. The most recent data revised Part B submitted received January 22, 1990, states that tanks 11-14 have a capacity of 27,500 each and are being used to store non-hazardous waste oil. Tank 18 has a capacity of 3,700 gallons and is being used to store finished product (processed solvent). Tanks 27 and 28 capacity of 4,700 gallons each are used to store finished product. Tank 43 - 2,300 gallons in size is storing non-hazardous waste oil. Tank R-1 is used to store hazardous waste derived fuel. The still is a batch distillation unit with a condenser (See Figure 5-6). These tanks have been in this area as early as 1963 (aerial photograph). Secondary containment for this area was not provided until 1983. During the VSI, approximately 20 drums were observed next to tank R1 awaiting shipment. The shaker screen is used to separate the solids from the liquid phase. The solids go into drums and the liquid is either used for fuel or recycled in one of the stills.

Date of Start-up: This area is depicted as active in aerial photographs from 1962. Unsure as to whether it contains the same tanks and equipment. The still is reported as being in service before 1965. A date was not available for installation of the shaker screen.

Date of Closure: Units are still active with no anticipated date of closure.

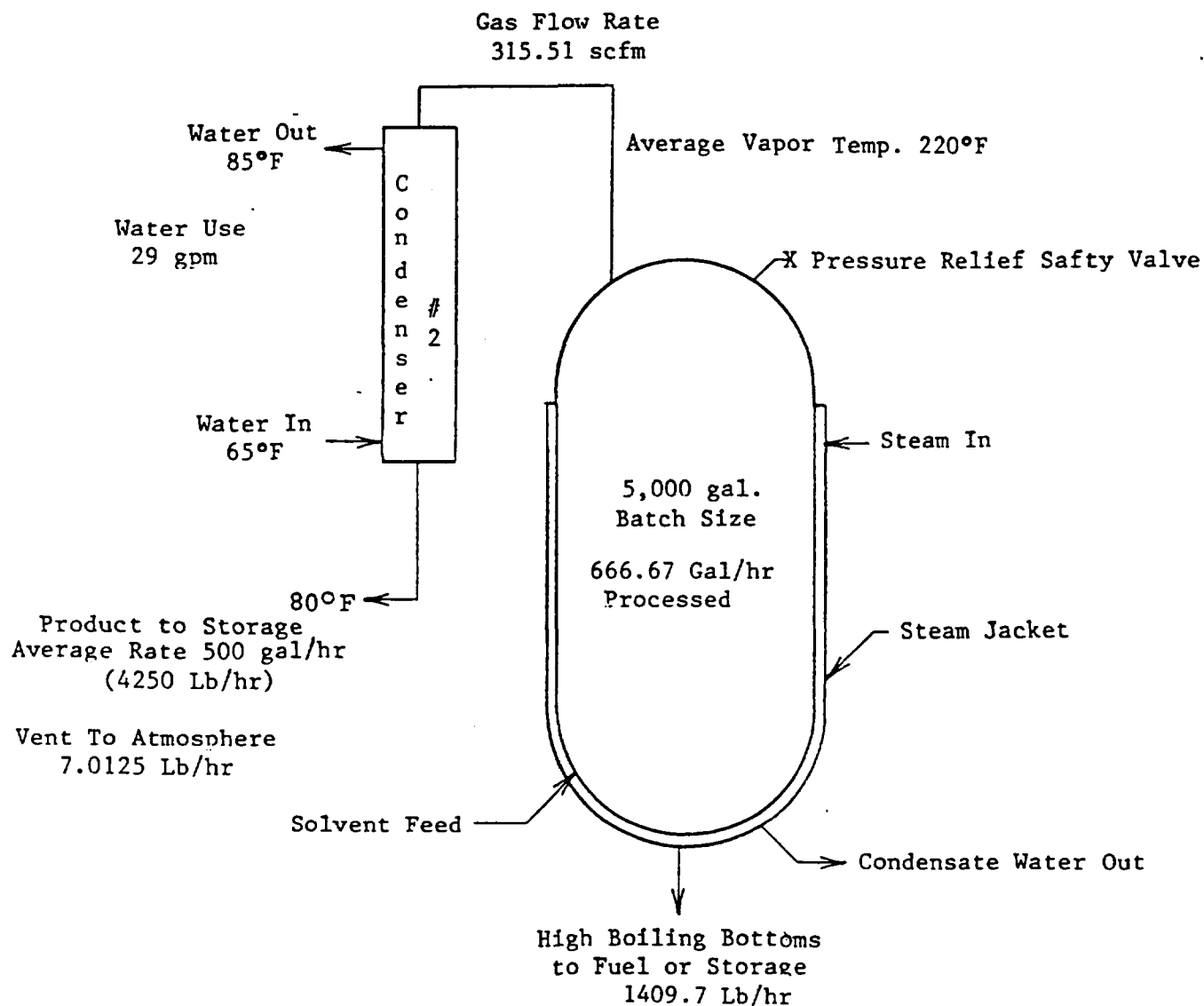
Wastes Managed: Waste oils, hazardous waste fuel (solvent derived) and processed/reclaimed solvent wastes.

Release Controls: Asphalt containment was provided in 1983. However, the shaker screen, the still, and tanks R1, 18 and 43 are not with the asphalt containment. They are on concrete which any runoff or spillage would flow into the sewer grates, or the asphalt containment area.

History of Release: No documented evidence of a release. However, containment was not provided until the early 1980's. During the VSI, several areas of visible contamination were noted around the shaker screen and a sheen was observed below the tanks (#11-#14).

Conclusions: Since this unit has been active for approximately 20 years without secondary containment, soil/groundwater contamination is likely. Also with the tanks, a shaker screen, and a solvent distillation unit, air emissions are probable.

#2 Distillation System (Batch)



(Flammable Solvent Blend)
Condenser is 500 sq.ft. SS tubes.
System vented through bottom filled
product storage tanks.
Average pressure 0.5 psig

Unit No.: SWMU #9 (Photos - Roll #1209 - #1)

Unit Name: Processed Solvent Storage - Tanks 16, 17, 24, 33, 34, 37, 38, 39, 42, and 41

Unit Description: This tank farm located at the SE corner of the distillation operations is used to store processed solvent. Tank sizes range from 3,800 gallons to 11,000 gallons. All tanks are reported as storing finished product/processed solvent in the January 90 Part B revision as well as the November 1, 1988, DAPC permit application. The tanks are within concrete containment. However, concrete containment has not always been provided, only a concrete pad existed prior to the 1980's.

Date of Start-up: Aerial photographs depict tanks in this area in 1973.

Date of Closure: No anticipated date of closure. It should be noted that tanks in this area have been replaced with stainless steel tanks. There are currently 8 stainless and 5 steel tanks.

Waste Managed: These tanks are used for processed solvent and thus do not contain wastes. However, documentation from the mid 70's related to this area is not available.

History of Releases: No documented history of releases.

Conclusions: Release potential to the soil/groundwater is suspected since containment has not always been provided. Air emissions are likely because of the volatile nature of the material (solvents) stored in the tanks.

Unit No.: SWMU #10 (Photos - Roll #1207 - #9 & #10)

Unit Name: Tanks 45, 46 and 47 and a solvent distillation unit #1.

Unit Description: The three tanks are 2,800 gallon each and are waste solvent feed tanks for distillation unit #1. Waste solvents are pumped to these tanks and are used to feed still #1. Still #1 is the LUWA thin film evaporator (see Figure 5-7). Secondary containment was provided to this unit after 1981. These tanks which store waste solvent are not addressed in the facility's Part A application. Only settling occurs in these tanks which does not constitute these tanks as process tanks.

Date of Start-up: Activity in this area is depicted in aerial photographs from 1973 and 1975. The LUWA system was put into service in 1980.

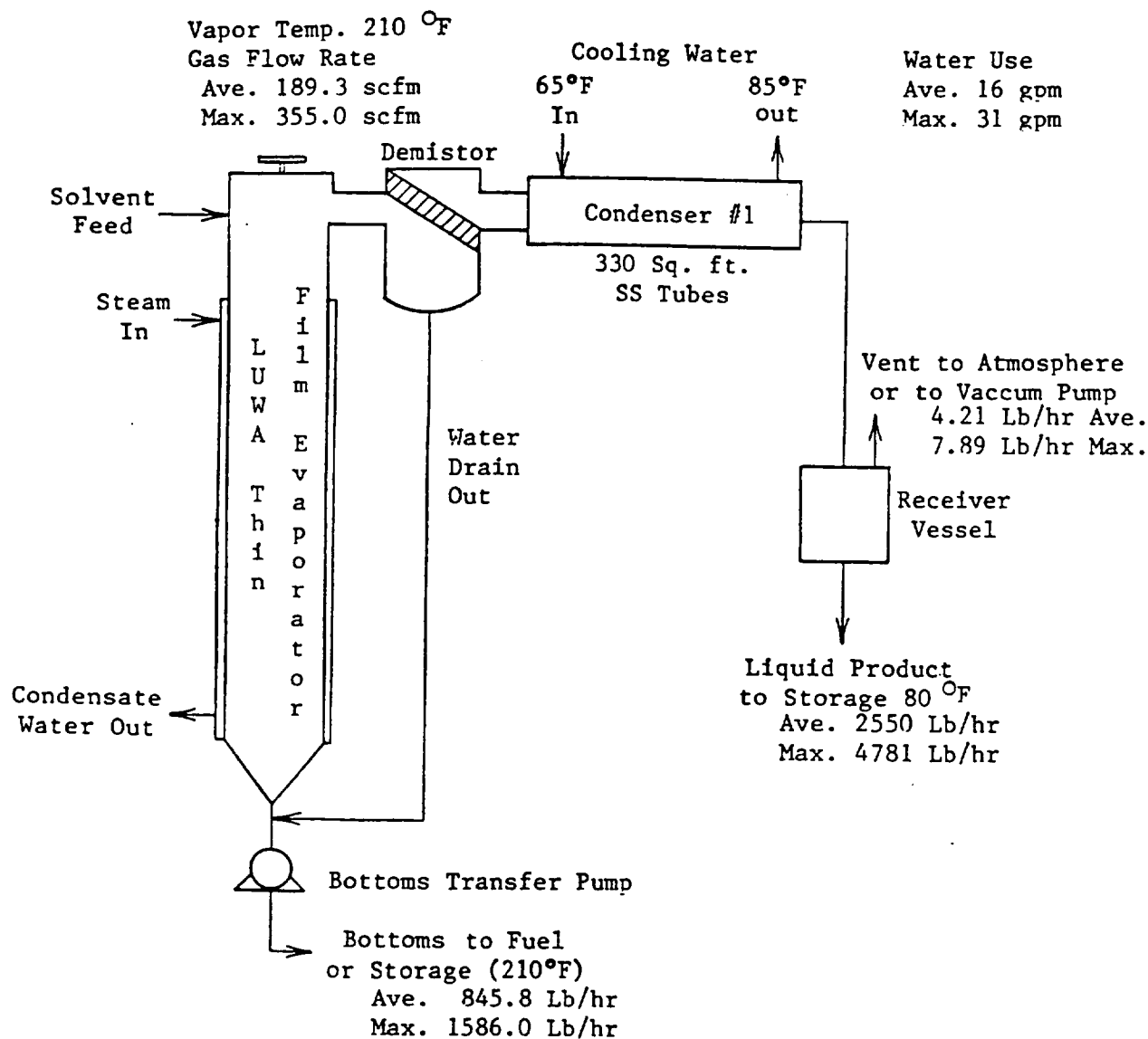
Date of Closure: Unit is still active with no anticipated date of closure.

Release Controls: Concrete containment is provided.

History of Release: No documented evidence of a release.

Conclusions: Soil/groundwater contamination is likely since unit appears to have been operated approximately 10 years without secondary containment. These tanks and the still are DAPC permitted.

#1 Distillation System



(Flammable Solvent Blend)
Solvent Feed Average 400 gal. hr.
Pressure + 1 psig to 20" hg. Vac.
Maximum Solvent Feed Rate 750 Lb/hr

Unit No.: SWMU #11 (Photos - Roll #1208 - #8 thru #12)

Unit Name: Tanks 7, 52, 25, 26, 36, 40, 44 and 9

Unit Description: The unit consists of eight tanks in the center of the facility directly south of the petroleum reprocessing plant. Waste solvent, still bottoms, processed solvent and fuel oil are stored in these tanks. It has been determined that tank #7 was moved sometime during the mid 1980's from SWMU #5 to its present location. That tank's integrity is suspect, based on information obtained from a former Clayton employee. The system sits on a concrete pad which was poured in 1982. Tanks are surrounded by a concrete dike.

Date of Start-up: Aerial photographs show the unit in place in 1973. It was not visible in photographs from 1964.

Date of Closure: The unit is presently operating and there are no plans for closure in the near future.

Wastes Managed: The 4,893 gallon tank #7 is used for the storage of chlorinated still bottoms. The 9796 gallon tank #52 stores waste solvent prior to its processing. The remaining tanks hold processed solvent and fuel oil.

Release Controls: The tanks sit on a concrete pad and are surrounded by a concrete dike. However, cracks were observed in the floor of the concrete and a large crack, which has been patched, on the berm (Roll #1208 - #11).

History of Release: No documented evidence of a release. During the VSI, sheens were observed on the water within the containment area (Roll #1208 - #8, #10 & #12).

Conclusions: Since these tanks operated for approximately 10 years without secondary containment and sheens were observed within the containment during the VSI, it is probable that contamination occurred before completion of the pad and containment area. Air emissions are also likely.

Unit No.: SWMU #12 (Photos - Roll #1202 - #6 & #7)

Unit Name: Still #5 and Hot Oil Heater

Unit Description: The unit is used for waste oil reclamation. A process diagram is attached (Figure 5-8). Pursuant to letters in Clayton's Solid Waste Management Units documentation, PCB oil was used in the hot oil heater. In that document, a memo reflecting statements from a former employee states that the system used PCB heat transfer fluid and that the pump associated with the system leaked badly and required a great deal of maintenance. It is unsure as to whether this hot oil heater is the same as the one currently at the site. A TSCA inspection was conducted on 8/8/85 by the USEPA. A sample from the hot oil heater was obtained and showed a PCB level of 26.6 ppm.

Date of Start-up: The still was operational prior to 1965.

Date of Closure: Hot oil heater is still operating. Still #5 has not been used in a couple of years.

Wastes Managed: PCB oil (product) was used as the heat transfer fluid. Still is used to process waste oils.

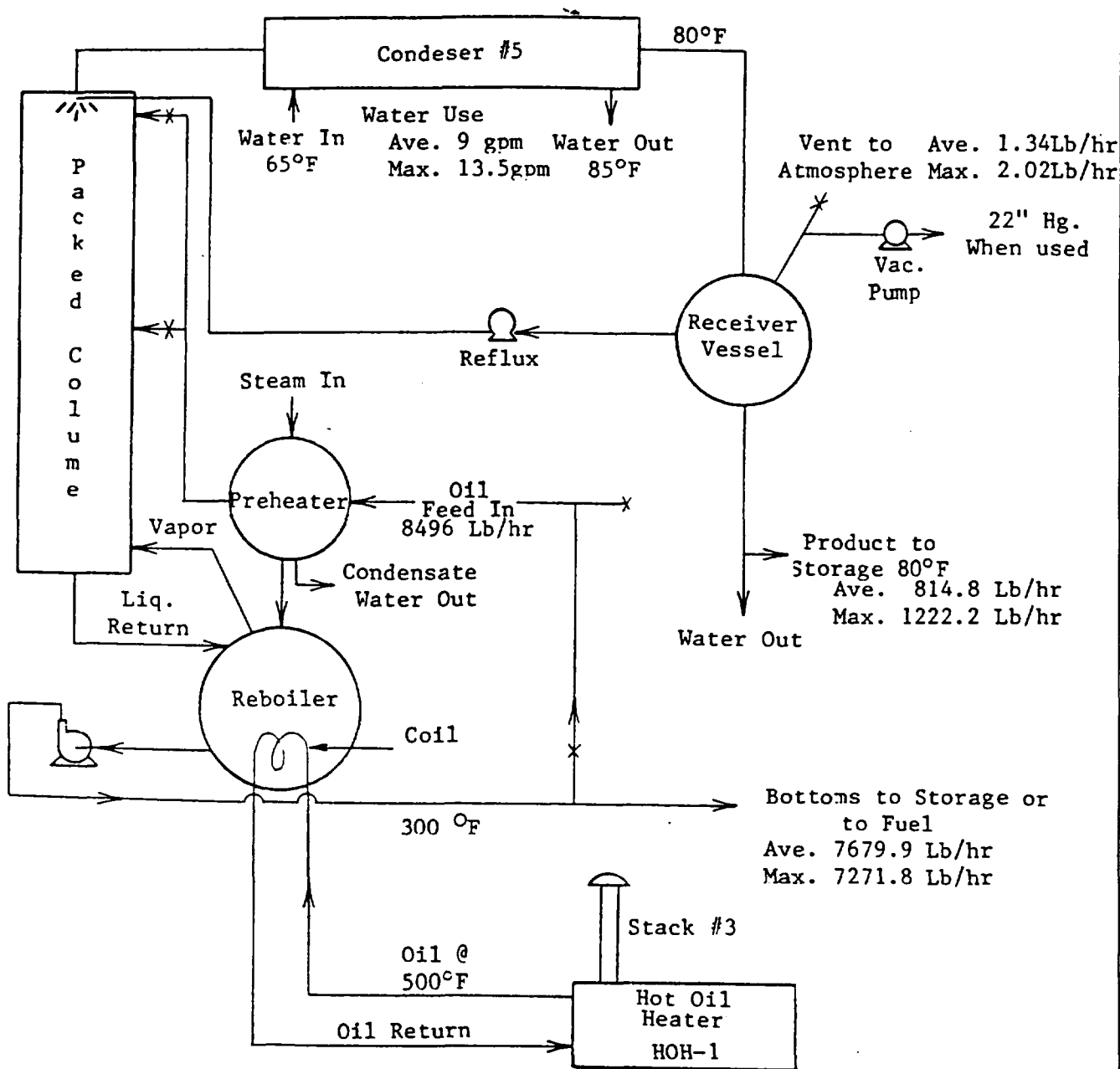
Release Controls: A concrete pad was provided in these areas to allow run-off to enter the drains. However, it was not provided until after 1980.

History of Releases: A document submitted by Clayton from a conversation with a former employee states the pump system leaked badly.

Conclusions: Since PCB oil was allegedly used in the hot oil heater and a former employee complained of a leaking pump, soil/groundwater contamination is likely.

#5 Distillation System (Hot Oil System)

Vapor Temp. 300 °F
Gas Flow Rate
Ave. 40.55 scfm
Max. 60.82 scfm



Condenser 225 sq.ft. SS tube
Feed 20 gal.min. - Overhead 2 gal.min. average, 3 gal. min. max.

Unit No.: SWMU #13 (Photos - Roll #1207 - #3)

Unit Name: Former location of Tank T-39, T-30, T29, T-31 and T-32

Unit Description: The tanks were located on the eastern slope of the facility's boundary. These tanks were 10,000 gallons each. They were reportedly used to store paint and solvent wastes. No secondary containment was available for these tanks while at this location. Tank 29 was moved and is now being used as a hazardous waste storage tank. The other tanks were reportedly cleaned out and scrapped.

Date of Start-up: The tanks are depicted on an aerial photograph taken in 1973.

Date of Closure: These tanks were removed between 1980 and 1981.

Waste Managed: These tanks were used to store paint and solvent wastes.

History of Releases: No documented evidence of release is available, however, an interview with former V.P. suggests spillage was quite extensive in this area.

Conclusions: Since these tanks were used to store hazardous waste without any secondary containment provisions, and were taken out of service shortly after the RCRA regulations became effective. Also, information obtained suggests that soil contamination has occurred. Therefore, an impact to the groundwater should also be considered.

Unit No.: SWMU #14 (Photos - Roll #1207 - #1, #4 & #5)

Unit Name: Location of Tanks 51 and 29

Unit Description: The two tanks and associated secondary containment are located on the eastern edge of the solvent recover operations. Tank 51 is used to store incoming waste solvent and has a capacity of approximately 7,500 gallons. Tank 29 also stores incoming waste solvent and has a capacity of 11,000 gallons. These tanks are located within a 41' x 26' secondary containment. The floors and walls of the containment system are constructed of reinforced concrete. A sump is located within the containment system. A portable pump is used to remove liquids from the sump area.

Date of Start-up: The tank system containing Tanks 51 and 29 was put into service in 1981. However, there appears to be activity in this area as early as 1973 from review of aerial photographs. Tank 29 was originally one of the paint and solvent waste tanks discussed under SWMU #13.

Date of Closure: Both tanks are still in use. Clayton plans to close Tank 29 and include Tank 51 in the Part B permit. A date for closure of Tank 29 has yet to be provided.

Wastes Managed: These two tanks are used to store waste solvents prior to recycling F002, F003, F005.

Release Controls: As mentioned previously reinforced concrete floors and walls were constructed in 1981. A sump is also available to remove spillage/precipitation.

History of Releases: No documented evidence of releases.

Conclusions: As with the locations of tanks in the other areas, soil/groundwater contamination is suspected. Also, tanks are air emission sources.

Unit No.: SWMU #15 (Photos - Roll #1206 - #7 thru #12)

Unit Name: Proposed Petroleum Reprocessing Operation Unit (Clayton Annex)

Description: Clayton proposed a 2.55 acre tract of land in the northern section of the facility be set aside for the development of a petroleum reprocessing operation. The facility received a developmental permit for that operation in 1982. One 290,000 gallon, one 62,434 gallon, two 204,736 gallon and six 27,136 gallon tanks make up the unit. The tanks are anchored to concrete pads though the floor of the tank farm is oil and chip. The entire area is confined by a concrete dike.

The petroleum reprocessing operation plan was abandoned in 1984. No reprocessing activities had even occurred in the unit. The unit was eventually utilized as a product and non-hazardous waste oil storage area.

Date of Start-up: Storage of finished product (processed solvent) and non-hazardous waste oil began in 1982.

Date of Closure: The facility continues to operate the tank unit. There is no anticipation of closure in the near future.

Waste Managed: Based on the information obtained, only tank G-5 was used to store wastes (waste oil). Also, tanks G-6 and G-7 have been used to store acetone (product).

Release Controls: The entire tank unit is anchored to a concrete pad and is surrounded by a concrete and earthen dike. However, the floor of the contained area is cinder and gravel.

History of Releases: No documented releases are on file with the IEPA. During the VSI, spillage around the valve of tank G-5 was observed (Roll #1206 - #12).

Conclusions: Due to the volatile nature of the material handled (processed solvent) fugitive emissions to air can be expected. Further, potential releases to the soil could be a possibility during loading and off-loading procedures.

Unit No.: SWMU #16 (Photos - Roll #1206 - #4 thru #6)

Unit Name: A-1 Waste Oil Storage Tank

Unit Description: The four 17,000 gallon vertical storage tanks are presently located in the NNE portion of the site. These tanks were previously located in the area north of the old TWI incinerator. The tanks are situated on a 65' x 18' concrete pad and surrounded by a concrete dike. They were used, according to A-1, for storage of resaleable non-hazardous waste oils.

Date of Start-up: Following their removal from the previous location, the tanks were erected and put into operation some time after June, 1983.

Date of Closure: The units remain operational and no closure date is anticipated. However, no material has been stored there since June, 1989 following the buy out of A-1 Oil.

Wastes Managed: Per Jerry Russell Bliss of A-1 Oil, the units functioned to store non-hazardous resaleable waste oils only. Analysis of samples collected from Tank #3 in August, 1985, showed the contents to be consistent with Bliss' statement. However, noting Bliss' past record of wastes handled, their management and that the sampling event was preannounced days in advance, it would not be beyond comprehension to assume that wastes other than the non-hazardous waste oils were handled or are being handled at that site.

Release Controls: The tanks are situated on a 65' x 18' concrete pad and surrounded by concrete diking. The off/on loading area for trucks has recently been asphalted and equipped with a collection device.

History of Releases: No releases have been documented by the Agency. During the VSI, a stain on the outside wall of the berm below the piping was observed (Roll #1206 - #6).

Conclusions: The potential for soil contamination via point saturation and runoff is suspected as there was previously no form of containment or collection in the area of the off/on loading of trucks. Also, due to the possibility of past and present handling of volatile wastes potential releases to the air should be taken into account.

Unit No.: SWMU #17 (Photos - Roll #1206 - #1 & #2)

Unit Name: Bliss underground storage tank

Unit Description: The Bliss underground storage unit was located approximately 45' south of the Bliss vertical storage tanks. Bliss contended that the 4000 gallon tank was installed as a water collection unit for the separation of water from oil in the four vertical tanks. That unit was apparently designed to work on a gravity feed principle allowing water to escape the vertical tanks and collect in the underground tank.

Date of Start-up: Operation of the underground tank began sometime in 1978 following its installation by Bliss and a contracted excavator.

Date of Closure: As with Bliss' vertical tanks, the underground tank was never officially closed by Bliss or Clayton. It was, however, exhumed and cut up on site in June 1983 (see Figure 5-8).

Wastes Managed: As previously mentioned, Bliss' contention was that only water separated from resaleable used oils were to be stored in the underground tank. Analyses results of samples taken from that tank were found to be inconsistent with the statement of its contents made by Bliss. Prior to its exhumation, samples were drawn from the tank by representatives of IEPA in February 1983. Analyses of these samples showed the contents of the tank to include, among other compounds, elevated levels of PCB's, Trichloroethylene, Tetrachloroethylene, toluene, xylenes, substituted benzenes and unidentified compounds (See Attachment 4). It was determined by IEPA that the underground

tank was used as a separate storage/disposal unit by Bliss in addition to its use as a water collection unit, and possibly as the same by TWI.

Release Controls: The underground tank was placed directly in-ground with no release controls or detection devices.

History of Releases: The release history of the unit practically began upon its installation in 1978. It was discovered by IEPA, during exhumation of the tank in June 1983, that holes had been punched into its bottom and sides, so as to allow for the intended, continuous release of materials to the surrounding subsurface environment (photos). Such release was evident by analyses of soil samples collected in the area surrounding the tank in June 1983 (See Attachment 5). Soil sample analyses detected PCB's, Trichloroethylene, toluene, xylenes, and substituted benzenes to name a few. Further releases were described in an interview with TWI personnel, around the time allegations surfaced, about the existing holes prior to the tank's exhumation. According to TWI operators, permission was granted by Bliss to allow TWI to cap the tank's riser pipe in the fall of 1980. TWI requested that permission be given when it was found that, particularly during wet weather, oily material would rise out of the pipe and spill over onto the surrounding gravel lot.

Conclusions: Soil and groundwater in the area suffered extreme impact from contaminants originating from the underground tank, due to the tank's purposely manipulated integrity. The potential for release was realized during the entire operational life, from 1978-1983, at all times.

000602

Date: June 6, 1983

Time: 8 am - 1:30 pm A.M. P.M.

Photograph By:

Kenneth A. Menzies

Location: LPC- 16312111

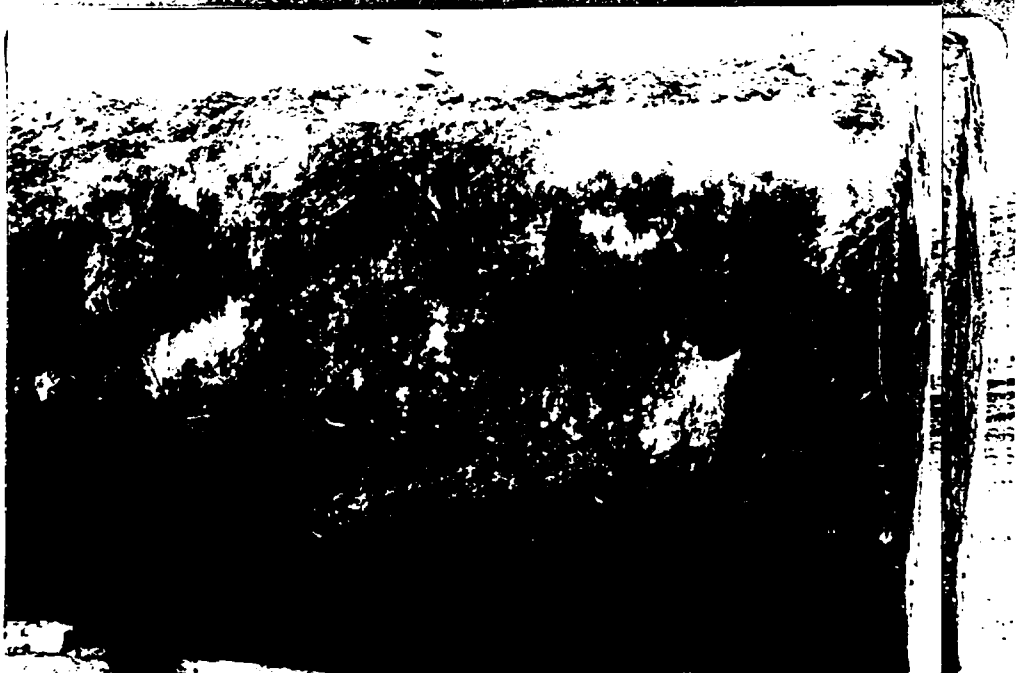
St. Clair

Co.

Sauget / Bliss

Comments: Photograph taken

toward the West



Date: June 6, 1983

Time: 8 am - 1:30 pm A.M. P.M.

Photograph By:

Kenneth A. Menzies

Location: LPC- 16312111

St. Clair

Co.

Sauget / Bliss

Comments: Photograph taken

toward the West



000000

Date: June 6, 1983

Time: 8 am - 1:30 pm A.M. P.M.

Photograph By:

Kenneth G. Mensing

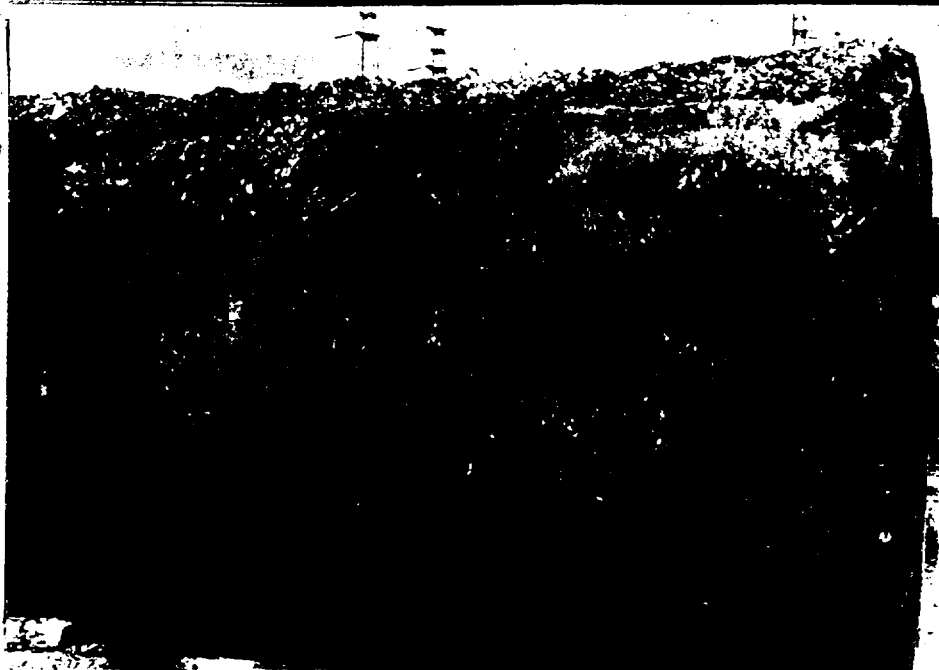
Location: LPC- 16312111

St. Clair Co.

Sauget / Bliss

Comments: Photograph taken

toward the West



Date: June 6, 1983

Time: 8 am - 1:30 pm A.M. P.M.

Photograph By:

Kenneth G. Mensing

Location: LPC- 16312111

St. Clair Co.

Sauget / Bliss

Comments: Photograph taken

toward the West



Date: June 6, 1983

Time: 8 am - 1:30 pm A.M. P.M.

Photograph By:

Kenneth G. Minsing

Location: LPC- 16312111

St. Clair Co.

Sauget / Bliss

Comments: Photograph taken

toward the



Date: June 8, 1983

Time: 10:30 am - 5 pm A.M. P.M.

Photograph By:

Kenneth G. McManis

Location: LPC 16312111

St. Clair Co.

Sauget / Bliss

Comments: Photograph taken

toward the NorthEast



Date: June 8, 1983

Time: 10:30 am - 5 pm A.M. P.M.

Photograph By:

Kenneth G. McManis

Location: LPC 16312111

St. Clair Co.

Sauget / Bliss

Comments: Photograph taken

toward the East



Unit No.: SWMU #18 (Photos - Roll #1206 - #1 & #2)

Unit Name: Bliss Vertical Tanks

Unit Description: Four 17,000 gallon vertical tanks occupied an area adjacent to the old TWI incinerator in the northern corner of Clayton's property. Those tanks were presumably utilized as a loading/off-loading and storage depot for the now defunct Jerry Russell Bliss, Inc. The tanks, for their entire operational life at that location, were situated on a crushed limestone pad and loading area with no form of secondary containment. Access to the units was gained through gates at the northern corner of the property.

Date of Start-up: Records indicate the four vertical tanks existed on-site since early 1977. However, from personal recollection of staff members involved with the site at that time, a more realistic period was estimated to begin some time in the late 1960's. The approximate date concurs with the approximate date submitted by Clayton, per Russell Bliss in a 1984 Comprehensive Environmental Report.

Date of Closure: Closure activities were never initiated by Bliss or Clayton Chemical, nor did such activities appear to be pursued by the IEPA. The tanks were, however, taken out of service in June 1983, dismantled and stored on an adjacent gravel pad to the immediate south of their previous location. They were re-erected at the point of storage that same month and put back into service.

Wastes Managed: The vertical tanks were reported by Bliss to the IEPA to be utilized as storage units for #2 diesel fuel and resalable used oils. Much controversy circulated about those units in the mid to late 1970's and early 1980's, as a result of Bliss' alleged activities in illegally accepting, storing and disposing of waste oils tainted with 2, 3, 7, 8 tetrachlorodibenzo-p-dioxin and hazardous waste solvents. In answer to those allegations, frequent sampling events were documented through the units life at that location.

Interesting were samples collected during a 12/8/82 site visit. Analysis of those samples indicated elevated levels of PCB's, Toluene, substituted benzenes and Trichloroethylene among others (refer to Attachment 6). No reports were found either proving or disproving the presence of TCDD contaminants in the tanks or surrounding soils and gravel.

Release Controls: None of the four tanks possessed release controls or secondary containment.

History of Releases: Releases from tanks are documented in photos (Figure 5-10) and memoranda. Further documentation was discovered in a Complaint for Injunction and Other Relief and a Complaint for Quo-Warranto and Violations of the Illinois Business Corporation Act. Both were filed on February 18, 1983 in the Circuit Court for the Twentieth Judicial Circuit, St. Clair County, Illinois and naming as respondent and defendant Jerry Russell Bliss, Inc. (Attachment 7). Releases can be attributed to leaking tank valves or inadequately tightened tank valves and generally sloppy loading/off-loading

Date: MAY 20, 1982

Time: 11:35 (A.M.) P.M.

Photograph By:

D. M. Spencer

Location: LPC- 16312104

ST. CLAIR Co.

SAUGET 1 CLAYTON CHEM

(BLISS STORAGE)

Comments: Photograph taken

toward the SOUTHEAST



Date: _____

Time: _____ A.M. P.M.

Photograph By:

Location: LPC-

_____ Co.

Comments: Photograph taken

toward the

techniques. Further releases were reported in a 1984 Comprehensive Environmental Report filed by Clayton which admits Clayton's knowledge of tank bottoms being drained onto the ground in the area surrounding several of Clayton's horizontal tanks. Areas directly impacted by the releases include the crushed limestone pad and loading area surrounding the tanks.

Conclusions: Soil/Groundwater - The release potential to the soil/groundwater was significantly high during the operational life of the units in that area as a result of consistent releases and the quantity of material released at a given time. Though downward migration of the material was possibly slowed by the thickness of the gravel pad (6-8"), the soil conditions underlying the gravel pad and the relatively shallow groundwater supply in that area make for a high potential for release situation.

Surface water potential for release to surface water is high due to the materials viscosity, the gravel surface to which it would be released to and the close proximity of off-site drainage pattern.

Unit No.: SWMU #19 (Photos - Roll #1206 - #3)

Unit Name: Trade Waste Incinerator

Unit Description: TWI operated from late 1979 to mid 1982 in the northern corner of Clayton's property. A wide range of waste streams were accepted by the facility for incineration during that period. In addition to the incinerator complex, TWI consisted of several drum storage areas, tank-bulk storage units and docks (see attached map).

Date of Start-up: Operations began following the issuance of an operating permit in late 1979.

Date of Closure: A mutual release entered into by Clayton Chemical and TWI terminated TWI's operation on Clayton's property in August, 1983. Stipulated in that agreement was the demand for TWI's cleanup of all areas associated with their activities during their operation and life at the site. No official closure procedure was ever initiated by TWI, Clayton or IEPA. TWI apparently remediated the site to Clayton's approval in 1983. It was reported in May, 1983 that TWI workers had excavated 4-6" of gravel from the drum storage areas, incinerator vicinity and area around the fuel tanks. That material was then "roasted" in the incinerator and later used as fill material on the new property TWI would relocate to.

Wastes Managed: TWI handled a variety of special, hazardous and pathological waste streams.

Release Controls: The incinerator was equipped with such emission control devices as a quencher, demister, cyclone and Venturi scrubber system. Storage areas related to the operation were, at best, a concrete pad. For the most part, drums were stored directly on the gravel lot (photos) with no form of secondary containment. Tanks were not equipped with release control devices.

History of Releases: Release of contaminants to the soil and air was a routine occurrence at TWI's facility (Attachment 8). Those releases were documented in IEPA files. On many occasions drums were observed to be in poor condition and leaking (see Figure 5-11). Paint wastes and certain types of sludges were contained in garbage bags which would easily rupture. It was further reported that emission control devices on the incinerator operated ineffectively or were, at times, not operated at all. A former employee of Clayton Chemical recalled a black, sticky "rain" falling around the surrounding facility while TWI operated. TWI's general operating record at that location was poor. Routine emissions and spills were recorded. Several incidents documented as proof of such include an accident in which three TWI employees were hospitalized after mishandling drums of paranitroaniline in June, 1982. Another involved damage to the incinerator complex following an explosion in the incinerator in 1982. Because of the poor operating record at TWI, Clayton initiated the terms for a mutual release from the land lease contract in 1983.

Conclusions: Because of the frequent spillage and leakage from drums the potential for contamination of the soil by saturation is extremely high. Also, with the facility's close proximity to the property line, off-site migration by surface water runoff was probable. Emissions to the air were documented and particularly highlighted by the description of the routine "black rain" falling around the facility.